

IN THE CLAIMS:

1. (Previously Presented) A method for determining the residual travel duration of a submarine, the method comprising:

providing a submarine with a pressure hull and an electric battery inside the pressure hull;

5 firstly, for at least one certain travel situation of the submarine, carrying out a reference journey through water, with which the power consumption of the submarine is detected, and stored as a situation-dependent consumption profile; and

later, for the same travel situation of the submarine, predicting the residual travel duration or a residual capacity of a battery after a predefined travel duration on the basis of the  
10 stored consumption profile and the current battery data.

2. (Previously Presented) A method according to claim 1, wherein reference journeys are carried out for several predefined travel situations with which in each case the power consumption of the submarine is detected and is stored as a situation-dependent consumption profile specific to the respective travel situation.

3. (Previously Presented) A method according to claim 1, wherein during the reference journey in a travel situation an average value of the recorded power consumption is formed over a measurement interval.

4. (Previously Presented) A method according to claim 1, further comprising selecting a previously stored matching consumption profile by an operator for the computation of the residual travel duration or of the residual capacity of the battery to be carried out.

5. (Original) A method according to claim 1, wherein during a reference journey the speed of the submarine is kept substantially constant and the power consumption which is detected is stored as a situation-dependant and speed-dependent consumption profile.

6. (Original) A method according to claim 1, wherein for a predefined travel situation a consumption profile which is not determined by a reference journey is interpolated from at least two other consumption profiles determined by a reference journey.

7. (Previously Presented) A method according to claim 1, further comprising detecting the fuel reserve of at least one charging unit and taking the fuel supply into account on computing the residual travel duration or the residual capacity.

8. (Original) A method according to claim 1, further comprising detecting the fuel and oxidant reserve of a fuel cell installation of the submarine and taking the fuel and oxidant reserve of a fuel cell installation into account on computation of the residual travel duration or the residual capacity.

9. (Original) A method according to claim 1, wherein the power consumption of a propeller motor and remaining power consumption units of the submarine are detected together at one point of measurement.

10. (Original) A method according to claim 1, wherein the power consumption of a propeller motor and remaining power consumption units of the submarine are detected separately from one another at at least two different points of measurement.

11. (Previously Presented) A device for determining the residual travel duration of a submarine, the device comprising: a computer; a display; input means; and a detection unit for detecting the power consumption of the submarine, said computer, said display, said input means and said detection unit being arranged inside a pressure hull of said submarine, said computer comprising a profile production module for producing at least one situation-dependent consumption profile with at least one certain travel situation on the basis of data detected from the detection unit, a memory module for storing the produced consumption profile and a computation module for computing the residual travel duration in a certain travel situation on the basis of a stored consumption profile for this travel situation, and current battery data.

12. (Original) A device according to claim 11, further comprising an interface to a battery monitoring means for transmitting current battery data to the computer.

13. (Original) A device according to claim 11, further comprising an interface to a travel measurement means for transmitting current travel data to the computer.

14. (Original) A device according to claim 11, further comprising an interface to a submarine installation automation for transmitting necessary data to the computer.

15. (Previously Presented) A device according to claim 11, wherein at least one of the computer, the display, the input means and the detection unit are integral components of an automation system or a battery monitoring means.

16. (Original) A device according to claim 11, wherein the computer, the input means and the detection unit are implemented with a software module in an automation system or a battery monitoring means.

17. (Previously Presented) A method for determining an energy consumption of a vehicle, the method comprising:

performing a plurality of reference journeys with the vehicle, each reference journey having a different travel situation;

separately measuring energy consumption of the vehicle during each of the reference journeys;

independently storing values of the energy consumption during each of the reference

journeys as situation-dependent consumption profiles;

providing a predefined journey with a plurality of possible travel situations;

10        comparing each of the possible travel situations with a matching one of the situation  
dependent consumption profiles to determine an energy consumption of each of the possible  
travel situations.

18. (Previously Presented) A method in accordance with claim 17, further comprising:

determining the energy available for the predefined journey;

comparing the energy consumption of each of the possible travel situations with the  
energy available;

5        determining which of the possible travel situations are possible with the energy available.

19. (Previously Presented) A method for determining the residual travel duration of a  
vehicle, the method comprising:

firstly, for at least one certain travel situation of the vehicle, carrying out a reference  
journey, during the reference journey the speed of the vehicle is kept substantially constant and  
5        the power consumption is detected and stored as a situation-dependant and speed-dependent  
consumption profile; and

later, for the same travel situation of the vehicle, predicting the residual travel duration  
or a residual capacity of a battery after a predefined travel duration on the basis of the stored  
consumption profile and the current battery data.

20. (Previously Presented) A method for determining the residual travel duration of a vehicle, the method comprising:

firstly, for at least one certain travel situation of the vehicle, carrying out a reference journey, with which the power consumption of the vehicle is detected, and stored as a situation-dependent consumption profile; and

later, for the same travel situation of the vehicle, predicting the residual travel duration or a residual capacity of a battery after a predefined travel duration on the basis of the stored consumption profile and the current battery data, a predefined travel situation with a consumption profile which is not determined by a reference journey is interpolated from at least two other consumption profiles determined by a reference journey.

21. (New) A method in accordance with claim 17, wherein:

said performing of a plurality reference journeys is performed with the vehicle traveling through water, with one of said plurality of reference journeys being under water;

all of said possible travel situations of said predefined journey are through water, with one of said plurality of possible travel situations being under water;

said predefined journey is in a different geographical location than said reference journeys.